ABSTRACT OF THE DISCLOSURE

According to the present invention, there is provided a semiconductor device including a trench gate IGBT, having:

a first semiconductor layer of a first conductivity type;

a second semiconductor layer of a second conductivity type which is formed on one surface of the first semiconductor layer;

a base layer of the first conductivity type which is formed in a surface portion of the second semiconductor layer;

emitter layers of the second conductivity type which are selectively formed in a surface portion of the base layer;

a plurality of trenches which extend through the emitter layers and the base layer and are formed to a predetermined depth in the second semiconductor layer;

gate electrodes which are formed on gate insulating films in the trenches;

an emitter electrode which is formed on the emitter layers and the base layer;

a collector electrode which is formed on the other surface of the first semiconductor layer;

an auxiliary base layer of the first conductivity type which is formed in an arbitrary region between two adjacent trenches and is insulated from the emitter electrode; and

a carrier discharge electrode which contacts a surface of the auxiliary base layer of the first conductivity type.